

230kV XLPE Insulated Transmission Cable

EHV Extruded XLPE | Bulk Transmission Class | Urban Underground & Generation Interconnect

PRODUCT OVERVIEW

Mirabel Energy USA 230kV XLPE transmission cable operates at the upper boundary of the IEC 60840 standard — representing bulk transmission-class underground infrastructure for the most demanding utility and generation interconnect applications in North America. At 230kV, underground cable systems are increasingly specified as the preferred alternative to overhead lines in urban and suburban corridors, environmentally sensitive areas, and where aerial right-of-way acquisition is cost-prohibitive or socially opposed. The 230kV XLPE cable system incorporates precision dry-cured triple-extruded insulation, segmental copper or aluminum conductors, longitudinal and radial water blocking, a corrugated aluminum moisture barrier sheath, and an outer HDPE jacket — engineered for 40+ year service life under continuous electrical, thermal, and mechanical stress. Factory acceptance testing per IEC 60840 includes partial discharge, voltage, and tan δ measurements on every cable length delivered.

230 kV Voltage Class	90°C Normal Conductor Temp	1050kV BIL Lightning Impulse	IEC 60840 Primary Standard
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APPLICATIONS

- Urban underground bulk transmission — replacing overhead 230kV lines
- Generation step-up interconnect — large power plant to 230kV substation
- Inter-substation cable in metropolitan transmission networks
- Offshore wind farm HVAC export cable (230kV class)
- Utility transmission cable in environmentally sensitive corridors
- Large data center hyperscale 230kV dedicated transmission infrastructure

KEY SPECIFICATIONS

- 230kV (245kV Um) rated — IEC 60840, AEIC CS9, CIGRÉ TB 823 compliant
- Triple-extruded dry-cure XLPE: precise insulation wall uniformity
- 1050kV BIL / 1050kV switching impulse withstand voltage
- Segmental stranded copper or aluminum conductors — 1000–3000 kcmil
- Corrugated aluminum sheath — longitudinal and radial moisture barrier
- Copper wire shield for fault current and capacitive charging current return
- HDPE outer jacket with factory-applied strippable oversheath for testing
- FAT per IEC 60840: PD, tan δ , voltage withstand on 100% of cable lengths

TECHNICAL SPECIFICATIONS

Parameter	230kV XLPE	Unit / Reference
System Voltage (Um)	245kV	IEC 60840
BIL (1.2/50 μ s)	1050kV	IEC 60060
Insulation Type	Dry-cure XLPE	Triple extruded
Conductor Temp Normal	90°C	IEC 60840
Conductor Temp Emerg.	105°C	IEC 60840
Conductor Sizes	1000–3000 kcmil	Cu or Al
Moisture Barrier	Corrugated Al sheath	Radial + longitudinal

CONDUCTOR SIZES & CONFIGS 1000–3000 kcmil Cu or Al segmental Corrugated Al sheath HDPE jacket FAT included	STOCKING & PROCUREMENT Reno, NV · Houston, TX Long-lead and project-phased delivery supported	APPLICATION ENGINEERING GCP Energy LLC — Salt Lake City, UT Ampacity, thermal, and system design support available
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